

ABSTRACT

The present invention provides a macroporous hyperhydroxy polymer formed from a monomer mixture of substantially similar fractions of functional acrylic monomers which are combined to form a compound having a polymer skeleton which provides a high number of hydroxyl sites. The result is a material which, when hydrated, has a pore size relative to oxygen and water which provides a high ratio of free water to bound water. When formed into contact lenses, the material exhibits oxygen permeability approaching that of a static layer of tears of equal thickness and water contents of 95% or greater. The polymer is also suitable for use as burn dressings, bandages, soil hydratants, surface treatments, lubricants and coatings, absorbents, transport membranes and the like.